



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,484	11/20/2003	Alireza Assadzadeh	0023-0181	6693
44987	7590	06/15/2007		
HARRITY SNYDER, LLP 11350 Random Hills Road SUITE 600 FAIRFAX, VA 22030			EXAMINER DUONG, OANH L	
			ART UNIT 2155	PAPER NUMBER
			MAIL DATE 06/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/716,484	Applicant(s) ASSADZADEH, ALIREZA	
	Examiner Oanh Duong	Art Unit 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15-19 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-19, and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-12, 15-19, and 21-24 are presented for examination.

Claims 13-14, 20, and 25-26 have been canceled.

Claim Objections

2. Claim 2 is objected to because of the following informalities:

Claim 2 recites the limitation "the at least one policy points" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 9-14, 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Cooper et al. (hereafter, Cooper), US 2004/0039942 A1.

Regarding claim 1, Cooper teaches a method of analyzing policy rules defined for a subscriber and determining packet treatment (Fig. 1), the method comprising:

retrieving definitions pertaining to policy rules for a subscriber (*i.e., building a policy/definition involves in deciding policy domains, grouping network nodes into logical communities, and expressing rules about which communities of hosts can provide what services to which communities of hosts, page 8 paragraph [0165]*).

determining at least one policy point (*i.e., policy domain or intranet*) in a network for the subscriber based on the retrieved definitions (*i.e., page 8 paragraphs [0170]-[017] and page 9 paragraph [0207]*);

determining the packet treatment at each of the at least one policy point (*page 5 paragraph [0095]*); and

outputting information corresponding to the packet treatment for each of the at least one policy point (*page 10 paragraphs [0212]-[0213]*).

Regarding claim 2, Cooper teaches the method of claim 1, further comprising:

consolidating the determined packet treatment for each of the at least one policy points (*i.e., the network behavior is directly analyzed based on direct observation of data traffic, page 22 paragraph [0362]*); and

displaying information representing the packet treatment through the network (*page 81 paragraph [0458]*).

Regarding claim 9, Cooper teaches the method of claim 1, further comprising:

determining at least one injection point based on the at least one policy point (*page 14 paragraph [0289]*);

Art Unit: 2155

using at least one policy agent to inject packets at least one injection point ((page 9 paragraphs [0190]-[0207]);

collecting statistics from one of the at least one policy agent (page 4 TABLE A);

consolidating and correlating the collected statistics (page 14, paragraph [0292]);

and

displaying results based on the consolidated and correlated statistics (page 16 paragraphs [0325]-[0328]).

Regarding claim 10, Cooper teaches one or more devices for analyzing packet treatment in a network, the one or more devices (Fig. 1) comprising:

a user input/output interface configured to receive input from a user interface (page 5 paragraph [0100]) and to send output to the user interface (page 7 paragraphs [0151]-[0156]);

database interface configured to access definitions in the database (page 5 paragraphs [0089]-[0090]);

a management server interface configured to request and receive information from a management server (page 24 TABLE M);

a network interface configured to request and receive information from devices in the network (page 23 paragraph [0376]); and

analyzer logic configured to analyze packet treatment based on policy rules defined or a subscriber (page 6 paragraphs [0127]-[0135]),

wherein the analyzer logic is configured to:

determining one or more policy points in a network based on the defined policy rules (i.e., page 8 paragraphs [0170]-[017] and page 9 paragraph [0207]);

analyze packet treatment at each of the one or more policy points based on the defined policy rules (page 6 paragraphs [0128]-[0132]); and

send analysis results via the user input/output interface (page 6 paragraph [0135] and page 81 paragraph [0459]).

Regarding claim 11, Cooper teaches the one or more devices of claim 10, further comprising an agent interface configured to send commands to at least one agent and to receive information from the at least one agent (page 9 paragraph [0188]-[0199]).

Regarding claim 12, Cooper teaches the one or more devices of claim 10, wherein the analyzer logic is configured to user policy rule definitions defined for a subscriber when performing analysis (page 8 paragraphs [0178]-[0179]).

Regarding claim 13, the one or more devices of claim 12, wherein the analyzer logic is further configured to:

determining a policy point in a network based on the defined policy rules (page 8 paragraph [0165]);

analyzing packet treatment based on conditions and actions identified in the defined policy rules (page 6 paragraphs [0127]-[0135]); and

send analysis results via the user input/output interface (page 5 paragraph [0092]).

Regarding claim 14, Cooper teaches the one or more devices of claim 12, wherein the analyzer logic is configured to:

determining one or more policy points in a network based on the defined policy rules (page 9 paragraphs [0203]-[0207]); and

analyzing the packet treatment at each of the one or more policy points based on the defined policy rules (*page 6 paragraphs [0127]-[0135]*).

Regarding claim 16, Cooper teaches the one or more devices of claims 12, wherein the analyzer logic is further configured to analyze possible packet input on an interface and determine actions to be taken based on the defined policy rules (page 5 paragraph [0095]).

Regarding claim 17, Cooper teaches the one or more device of claim 11, wherein the one or more devices are configured to command, via the agent interface, one or more agents to inject packets into a network (*page 6 paragraph [0108]*).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2155

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-6, 15, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper, in view of Haddock et al. (hereafter, Haddock), US 6,678,248 B1.

Regarding claim 18, Cooper teaches the one or more of claim 11, further configured to:

command, via the agent interface, one or more agent to inject packets into a network (*page 6 paragraph [0108]; and*

collect statistics via the agent interface (page 6 paragraph [0131]).

Cooper does not explicitly teach consolidate and correlate the collected statistics.

Haddock teaches a flexible, policy-based, mechanism for managing, monitoring, and prioritizing traffic within a network (seen in abstract). Haddock teaches consolidate and correlate the collected statistics (col. 8 line 64-col. 9 line 29).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Cooper to consolidate and correlate the collected statistics as taught by Haddock. One would be motivated to do so to allow multiple traffic groups to be mapped to a single QoS queue.

Regarding claim 22, Cooper teaches the system of claim 19.

Cooper does not explicitly teach determine a plurality of traffic groups based on the ones of the policy rules and the service definitions defined for a subscriber.

Haddock teaches a flexible, policy-based, mechanism for managing, monitoring, and prioritizing traffic within a network (seen in abstract). Haddock teaches determine a plurality of traffic groups based on the ones of the policy rules and the service definitions defined for a subscriber (col. 9 lines 31-52).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Cooper to determine a plurality of traffic groups based on the ones of the policy rules and the service definitions defined for a subscriber as taught by Haddock. One would be motivated to do so to allow classification of traffic using the traffic group definitions defined in the QoS policy.

Regarding claim 15, this claim recites limitation that is substantially the same as claim 22, same rationale of rejection is applicable.

Regarding claim 3, Cooper-Haddock teaches the method of claim 1, wherein the determining the packet treatment comprising assigning traffic to traffic groups based on ones of the policy rules that are in effect (Haddock, col. Col. 5 lines 36-55).

Regarding claim 4, Cooper-Haddock teaches the method of claim 3, wherein traffic assigned to one of the traffic groups satisfies a same one or more policy rule conditions (Haddock, col. 5 lines 16-55).

Regarding claim 5, Cooper-Haddock teaches the method of claim 3, wherein the determining the packet treatment further comprising:

determining which one of the policy rules have conditions satisfied by packet input (Cooper, page 23 paragraphs [0374]-[0380]); and

determining which of the policy rules that have conditions satisfied by the packet input are eclipsed (Haddock, col. 8 line 64-col. 9 line 29).

Regarding claim 6, Cooper-Haddock teaches the method of claim 5, wherein the determining which of the policy rules that are eclipsed is based n eclipsing rules defined for a router (Haddock, col. 8 line 64-col. 9 line 29).

6. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper, in view of Westerinen et al. (hereafter, Westerinen), US 6,119,185.

Regarding claim 7, Cooper teaches the method of claim 1, wherein the determining the packet treatment comprises:

obtaining a list of policy rules defined for a direction of an interface (page 16 paragraphs [0339]-[0340]);

sorting the list of policy rules based on a precedence defined for each of the policy rules (page 17 paragraph [0341]); and

For each of the sorted policy rules:

determining whether a condition of each one of the sorted policy rules is satisfied by a possible packet input (page 17 paragraph [0345]);

for each of the conditions that are satisfied by the possible packet input, adding the corresponding policy rule to an "in effect" list of the policy rules (page 17 paragraph [0345]);

For each of the conditions that are not satisfied by the possible packet input, adding the corresponding policy rule to an "ignore" list of the policy rules (page 17 paragraph [0345]).

Cooper does not explicitly teach determining which ones of the policy rules from the "in effect" list are eclipsed and moving ones of the policy rules that are eclipsed to an "eclipsed" list of the policy rules.

Westerinen teaches determining which ones of the policy rules from the "in effect" list are eclipsed and moving ones of the policy rules that are eclipsed to an "eclipsed" list of the policy rules (col. 3 line 66-col. 6 line 25).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the eclipse rules as taught by Westerinen into Cooper's system. One would be motivated to do so to achieve enhanced performance and to minimize conflict (Westerinen, col. 1 lines 51-52).

Regarding claim 8, Cooper teaches the method of claim 7, further comprising performing, for each of the sorted policy rules, determining which ones of the policy rules from the "in effect" list can be combined and rearranging an order of the sorted "in

Art Unit: 2155

effect" list of the policy rules based on a definition of permissible combined actions (page 17 paragraph [0345]).

7. Claims 19, 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper, in view of Piesco, US 2003/0212908 A1.

Regarding claim 19, Cooper teaches a system for analyzing packet treatment in a network (Fig. 1), the system comprising:

a management server configured to load policy rules and service definitions to a router when a subscriber session is established (page 6 paragraph [0129]);

a database including definitions of policy rules, the service definitions, and a network configuration, the database being configured to be accessible by the management server (page 5 paragraphs [0089]-[0090]);

a policy analyzer configured to analyze packet treatment based on ones of the policy rules and the service definitions defined for a subscriber, the policy analyzer being configured to access the management server and the database (page 6 paragraphs [0127]-[0135]); and

user input/out interface configured to provide input to the policy analyzer and receive analysis results from the policy analyzer (page 5 paragraph [0092]).

Cooper does not explicitly teach a policy analyzer configured to receive commands from the policy analyzer to inject packets into a network at an injection point.

Piesco teaches method and system for simulating computer network to facilitate testing of computer network security (seen in abstract). Piesco teaches a policy analyzer configured to receive commands from the policy analyzer to inject packets into a network at an injection point (page 2 paragraph [0019]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Cooper to receive commands from the policy analyzer to inject packets into a network at an injection point as taught by Piesco. One would be motivated to do so to provide an improved method and system for simulating a computer network in order to facilitate the testing of computer network security (Piesco, page 1 paragraph [0007]).

Regarding claim 21, Cooper teaches the system of claim 19, further comprising a policy analyzer agent configured to collect statistics regarding traffic injected at an injection point and to send the collected statistics to the policy analyzer (page 9 paragraphs [0190]-[0207]).

Regarding claim 23, Cooper teaches one or more network devices, comprising:
an analyzer interface configured to receive command from a policy analyzer and send information to the policy analyzer (*page 7 paragraph [0147]*); and

statistics module configured to collect statistics of the injected traffic, the statistics module being further configured to send the collected statistics to a policy analyzer via the analyzer interface (*page 7 paragraph [0138]*).

Cooper does not explicitly teach an injector for injecting traffic into a network upon receiving a command from the policy analyzer via the analyzer interface.

Piesco teaches an injector for injecting traffic into a network upon receiving a command from the policy analyzer via the analyzer interface (page 2 paragraph [0019]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Cooper to inject traffic into a network upon receiving a command from the policy analyzer via the analyzer interface as taught by Piesco. One would be motivated to do so to provide an improved method and system for simulating a computer network in order to facilitate the testing of computer network security (Piesco, page 1 paragraph [0007]).

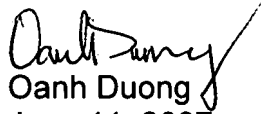
Regarding claim 24, Cooper teaches the one or more device of claim 23, wherein the one or more network devices include a router (*page 4 TABLE 1*).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Oanh Duong whose telephone number is (571) 272-3983. The examiner can normally be reached on Monday- Friday, 9:30PM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2155

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Oanh Duong
June 11, 2007